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ABSTRACT

The Individualized Quality of Life Scale (IQOLS) is a two-component scale designed to measure the quality of life (QOL) of cancer patients. The two components are the patient's satisfaction with 14 different life areas and the importance of the life areas to the individual. By combining the two components, an overall QOL score can be obtained that is sensitive to the individual's subjective appraisal of the life areas. To obtain normative data and information about the reliability of the measure, data were collected from 59 general cancer patients, both inpatient and outpatient, 38 cancer patients at a Veterans'Administration hospital, and 130 college psychology students. To study test-retest reliability, some of the subjects were readministered the questionnaire after approximately 4 weeks. It was found that while the IQOLS discriminated between both cancer groups and the students at the p less than 0.10 level of significance, the satisfaction scores alone (without inclusion of the importance scores) yielded more significant differences. These findings are discussed and an analysis of important data is provided. Four tables present study findings. (SLD)

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The Individualized Quality of Life Scale (IQOLS): Psychometric Properties and Comparative Population Norms

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ABSTRACT

The Individualized Quality of Life Scale (IQOLS) was presented at the Southeastern Psychological Association convention last year. It is a two-component scale designed to measure the quality of life (QOL) of cancer patients. The two components are 1) the patients' satisfaction with fourteen different life areas and 2) the importance of the life areas to the individual. By combining the two, an overall QOL score can be obtained which is sensitive to the individual's subjective appraisal of the life areas (satisfaction x importance).

The present study will be conducted to obtain normative data from different cohorts as well as to gain further information on the reliability of the measure. Data was obtained from general cancer patients, both inpatient and outpatient (GENCA), cancer patients at a VA hospital (VACA) and college psychology students (USC). To study test-retest reliability, some of the subjects were re-administered the questionnaire after approximately a four-week interval. It was found that while the IQOLS discriminated between both cancer groups and the students at the $p<.10$ level of significance, the satisfaction scores alone (without inclusion of importance scores) yielded more significant differences. There is a discussion of these findings along with an analysis of importance data alone.

INTRODUCTION

With the increase in health care options, quality of life (QOL) has become an increasingly important outcome variable in the treatment of cancer patients. While many different meanings have been ascribed to the term, one generally accepted definition is "the subjective sense of well-being derived from current ecperience of life as a whole" (Campbell et al, 1976), with most measures of 8QOL including the broad areas of physical, emotional and social functioning.

The Individualized Quality of Life Scale (IQOLS) was developed to measure the QOL of cancer patients (Downs & Wagner, 1991). The items of the IQOLS were developed based on direct input from cancer patients. It is unique in that it includes the Importance of Life Areas (ILA) subscale, which asks participants to rate the importance of different life areas to them. The ILA scores are combined with the ratings of satisfaction with different life areas to determine the person's overall QOL score.

In a previous study, the IQOLS was shown to have high internal reliability and correlated highly with the Quality of Life Uniscale (Spitzer et. al., 1981), indicating concurrent validity. Construct validity was also shown by the groupings obtained in a factor analysis. There were also results which implied that the more changes a person makes in the importance they assign to different areas of their life after having cancer, the lower their QOL.

The present study was done to obtain more normative data on the IQOLS by administering it to different cancer groups. It was also administered to college students to determine if the measure is adequately sensitive to discriminate between cancer and non-cancer groups. Another goal of the study was to gain information about the differences in importance of life areas among groups.

METHOD

Subjects

The groups that were administered the IQOLS were as follows (see Table 1 for demographic information for each group):

General cancer patients (GENCA): This group includes 59 cancer patients who were asked to complete the IQOLS either in the outpatient cancer treatment center at Baptist Hospital, Columbia, S.C. or as inpatients at Richland Memorial Hospital, Columbia, S.C.

VA patients (VACA): Thirty-eight VA patients were tested individually at the Veterans' Hospital in Columbia, S.C., when they came to the Oncology Clinic for either treatments or check-ups.

Psychology students (USC): One hundred and thirty psychology students were tested in groups in the classrooms. Fifty-seven of these were retested approximately four weeks later.

Measures

Individualized Quality of Life Scale (IQOLS)

The IQOLS is made up of two sub-scales, one which measures satisfaction with 14 different areas of life (SATLA) and the other

which measures the importance of the 14 areas of life to the respondent (ILA). The SATLA is a eight point Likert scale with responses ranging from "excellent" to "very poor". The subjects were requested to rate the areas according to how they had felt overall in the past week.

The ILA is a scale on which the subjects rated the importance of each of the 14 areas of life to them. The subjects were instructed to pick the most important area and to give it a score of 100. Then they were to rate all other areas relative to this most important area, giving each scores of 100 or less. Importance ratings on the IRS were transformed by dividing the rating given to each area by the total of all the scores and multiplied by 100. Using this formula, each importance rating is transformed to a percentage of the total, thereby equalizing the scaling for all of the respondents. It was also done so that the importance scores and the satisfaction scores have a comparable range of possible responses.

Overall QOL scores for the IQOLS-S were computed by multiplying the satisfaction ratings to the transformed importance rating.

RESULTS

On the QOLS-S, patients had a mean overal QOL score of 620.70, with a standard deviation of 82.53 (n=195). Table 2 lists the QOLS-S means and standard deviations for the three groups. The standard deviations show that the USC group was the most

homogeneous, followed by the VACA group, and then the GENCA group. A general linear model regression indicated that these means were significantly different ($F=3.62$, $p<.02$). Pair-wise contrasts were done to determine specifically which means differed. It was found that the VACA group mean was different from the USC group ($F=5.38$) at the $p<.03$ level of significance. The GENCA group mean was different from the USC group ($F=3.49$) at the $p<.10$ level of significance. The difference between the GC and VA groups was not significant. Figure 1 indicates the differences between groups on each area of life.

Statistics were also done using only the satisfaction scores to compute QOL (does not include importance ratings). Table 3 gives the mean QOL score of each group and the standard deviations. A general linear model regression indicated that the three means were significantly different ($F=4.73$, $p\leq.01$). Pairwise contrasts revealed that the GENCA and USC group means were different ($F=7.45$, $p\leq.01$) and the VACA and USC group means were different at the $p\leq.05$ level of significance.

An analysis of the importance ratings by group was done to determine how importance ratings vary across groups. Table 4 lists the rankings and means of the importance ratings of each area of life by group. General linear model regressions were computed to determine which group means were significantly different. Seven of the fourteen area means were different at the $p\leq.05$ level of significance. Pair-wise contrasts indicated that five of these areas consisted of the GENCA and VACA groups being different from

the USC group. Only in two areas were the GC and VA group importance means different.

Pearson correlations were computed to determine the test-retest reliability. For the IQOLS-S, the correlation was .75 ($p \leq .001$, $n=58$). For the satisfaction only scores, $r=.79$ ($p \leq .001$, $n=60$).

DISCUSSION

While it theoretically makes sense that importance of life areas should be a part of the computation of QOL, our results indicated that the satisfaction scores alone were slightly more discriminative between groups and had a higher test-retest correlation than did the IQOLS-S, which includes importance ratings. This, of course, goes against our hypothesis that the inclusion of importance ratings would lead to a more definite measurement of QOL. We have several hypotheses concerning why these results were obtained. A first consideration is that there is a great deal of within group variance in importance scores. This suggests that presence or absence of cancer may not be the significant variable when looking for differences in ratings of importance, but rather some other variable, such as age.

While we did find significant differences in the ratings of importance in seven of the areas of life, the other seven areas were not significantly different across groups. It may be that people have an idea of what should be important to them that does not necessarily change dramatically across personal circumstances.

What varies, perhaps, is the behavioral manifestations of priorities. For example, while a college sophomore may cognitively rate her family as the most important area of her life on a self-report measure, she may actually spend a great deal more time thinking about or doing things in other areas of her life. This leads us to what the definition of importance is in the first place. We did not specify on the questionnaire whether we intended for it to be time spent thinking about or involving oneself in an area or simply what one thinks are his/her priorities in life. It may be that importance of life areas is a variable that is difficult for people to evaluate in themselves, so instead look to societal norms to see what "should" be most important.

There is also the issue of how the IQOLS-S scores were computed. Even with the adjustment of the importance scores (making them a percentage of the whole), there is a greater possible range of responses (.09-18.39 in the present sample) than with the satisfaction scores (1-7). This gives greater weight to the importance scores than to the satisfaction scores.

Aside from the issue of inclusion of importance of life areas in the computation of QOL, we obtained some interesting results looking at importance scores across groups. The greatest difference was in the area of religious/spiritual feelings, with the college students ranking it as much less important than did the cancer patients. Another area in which there was a large difference was in appetite, with college students ranking it as less important than cancer patients. This makes sense given that

the college students were mostly young females, who statistically are more likely to want to lose weight than older females or males. An area that was much more important for the college students than the cancer patients was financial condition.

This study has left the authors with more questions than answers in the measurement of QOL. While it was interesting to see differences in importance across groups, the differences were not as dramatic as one would imagine given the great difference in lifestyles between college students and hospitalized cancer patients. Further study should be given to the idea of importance as a variable of QOL. One possibility is incorporating the idea of importance into rankings of satisfaction, i.e, the instructions could specify that the respondent think of how important a particular area is to them when considering their satisfaction with it. It probably is the case that this is done at times without specific instructions to do so. For example, in response to satisfaction with sexual functioning, some respondents replied that they were not having sex by choice (implying it is not important for them to do so), so they were satisfied with their sex life. Another possibility is that there is better way of statistically measuring and combining satisfaction and importance which leads to a more discriminating measure of QOL.

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TABLE 1

Demographics of Groups

	GENCA	VACA	USC
N	59	38	130
Mean Age	52.66	62.3	23.42
#Females/Males	37/22	35/3	99/31

Level of Education

	GENCA	VACA
8th grade or less	5	13
Some high school	7	12
Completed high school	12	2
Some college	10	6
Completed college	24	2
Unknown	1	3

Site of Cancer

	GENCA	VACA
Breast	19	0
Colon/Rectal	11	11
Bladder	6	0
Lung	3	5
Throat	4	4
Prostate	0	4
Blood	0	4
Bone	3	0
Liver	3	0
Brain	2	0
Stomach	2	0
Other	2	6
Unknown	4	4

Average Time Since Diagnosis

GENCA - 22 months
VACA - 4 years

Table 2

IQOLS-S Means and Standard Deviations by Group

Group	Mean	Standard Deviation
GENCA (n=41)	605.28	114.87
VACA (n=33)	595.65	92.97
USC (n=121)	632.76	62.50

Table 3

Satisfaction Only Score Means and Standard Deviations by Group

Group	Mean	Standard Deviation
GENCA	82.55	17.21
VACA	83.36	11.93
USC	88.08	8.88

TABLE 4

Rankings and Means of Adjusted Importance Scores for Each Group

Item	GENCA	VACA	USC
Family	1 (9.38)	1 (9.15)	1 (8.71)
Friends	2 (8.77)	4 (8.38)	2 (8.06)
*Job/Household work	12 (5.97)[c]	14 (5.07)[c]	12 (6.75)[ab]
*Appetite	10 (6.03)[c]	7 (7.09)[c]	14 (4.22)[ab]
Recreation	13 (5.35)	13 (5.37)	13 (5.93)
*Intellectual funct.	6 (7.34)[bc]	5 (8.15)[a]	3 (7.95)[a]
*Do things for self	5 (7.45)[b]	3 (8.41)[ac]	5 (7.82)[b]
Emotionally stable	4 (7.92)	6 (8.08)	4 (7.93)
Physical appearance	9 (7.19)	10 (6.43)	8 (7.13)
*Sexuality	14 (5.07)[c]	12 (5.49)[c]	11 (6.76)[ab]
Physical functioning	7 (7.37)	8 (6.86)	7 (7.42)
No physical discomfort	8 (7.24)	9 (6.51)	9 (6.93)
*Financial condition	10 (6.22)[c]	11 (5.97)[c]	6 (7.49)[ab]
*Religious feelings	3 (8.69)[c]	2 (9.03)[c]	10 (6.90)[ab]

"*" by item indicates that the F value is significant at the $p<.05$ level.

"a" by group mean indicates that it is significantly different from the GENCA group mean.

"b" by group mean indicates that it is significantly different from the VACA group mean.

"c" by group mean indicates that it is significantly different from the USC group mean.